

Amendments to the Specification:

Please replace paragraph [0007] of the specification with the following:

[0007] The heat transferred to the exhaust gas is related to, inter alia, the rate of mass flow of the exhaust gas and the difference between the temperatures of the heating element and the exhaust gas. Convection, in particular, may be a function of the rate of mass flow of the exhaust gas, while conduction and radiation may be functions of the difference between the temperatures of the heating element and the exhaust gas. Since the electrical power dissipated by the ceramic element is proportional to the heat dissipated by the ceramic element, and consequently to the rate of mass flow of the exhaust gas, a heating element may be used to measure the rate of mass flow by maintaining the heating element at a constant temperature and measuring the power required to replace the heat dissipated by the exhaust gas.

Please replace paragraph [0024] of the specification with the following:

[0024] A slope detector 108 may measure a slope 110 of heating element temperature 120 while power 112 is being supplied to heating element 102. In one embodiment, slope 110 may be an instantaneous slope. In one embodiment, slope detector 108 may measure a tangent 116 of heating element temperature 120, and the magnitude 130 of slope 110 may be a magnitude of tangent 116. In several

embodiments, magnitude 130 may be denominated in Watts per second (W/s) or ° C per second (° C/s). In one embodiment, power 112 may be switched off for a predetermined period of time 118 if a magnitude 130 of slope 110 is greater than a reference magnitude 424 M. In one embodiment, an open loop ramp up may be restarted after power 112 has been switched off for predetermined period of time 118. In one embodiment, power 112 may be a power signal 126 having an amplitude 132. In one embodiment, amplitude 132 may be measured in Watts (W).

Please replace paragraph **[0026]** of the specification with the following:

[0026] In one embodiment, reference magnitude 424 M may be 500° C/second. In one embodiment, power 112 may be switched off for a predetermined period of time 118 if a magnitude 130 of slope 110 is greater than 100° C/second and amplitude 132 is greater than 3 W. In one embodiment, power 112 may be switched off for a predetermined period of time 118 if a magnitude 130 of slope 110 is greater than 500° C/second and amplitude 132 is greater than 3 W.

Please replace paragraph **[0029]** of the specification with the following:

[0029] In a second embodiment of the invention a method of protecting a heating element 100 for a mass-flow sensor 100 may include the steps of disposing a heating

element 102 in a gas 104, detecting a temperature 120 of heating element 102, disposing a gas temperature sensor 106 in gas 104, sensing a temperature 122 of gas 104, supplying power 112 to heating element 102 to replace heat dissipated by gas 104 based on heating element temperature 120 and gas temperature 122, measuring a slope 110 of power 112 with a slope detector 108 as it is supplied to heating element 102, and switching off power 112 for a predetermined period of time 118 if a magnitude of slope 110 may be greater than a reference magnitude 424 M. In one embodiment, the method of protecting a heating element 100 for a mass-flow sensor 100 may further include the step of restarting an open loop ramp up.